FE-224 WD

Diag. Cht. No. 1251-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey ..... Wire Drag

Field No. R/H-10-1-75

Office No. ..... FE-224 WD

LOCALITY

State ..... Florida

General Locality ..... Southeast Atlantic Coast

Locality ..... Key West

19 75

CHIEF OF PARTY
R. A. Ganse

LIBRARY & ARCHIVES

DATE ..... July 9,1980

☆U.S. GOV. PRINTING OFFICE: 1980—668-537

FE-224 WD

Area 3

Chts
- 11447
- 11441
- 11445
- 11442
- ~~11434~~
- ~~11420~~
- ~~11013~~
- ~~11006~~
- ~~11460~~

FORM C&GS-537
(5-66)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

F.E. 224 W.D.

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

R/H 10-1-75

State Florida

General locality South East Atlantic Coast

Locality Key West, ~~Florida~~

Scale 1:10,000 Date of survey 1-6 May 1975

Instructions dated 24 December 1974 Project No. OPR 515

Vessel RUDE(ASV 90) and HECK(ASV 91)

Chief of party ~~CDR. R.A. Ganse~~ Stet

Surveyed by ~~CDR. Ganse~~ Stet, LCDR Bush, Ens. Albertson, Ens. Losleben, Ens. Renninger

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by

Graphic record checked by

Protracted by Automated plot by

Soundings penciled by

Soundings in ~~XXXXX~~ feet at MLW ~~XXXX~~ ~~Based on Predicted Tides~~

REMARKS: The following data was removed from the Descriptive Report and filed with the field records:

Abstract of Electronic Control Correctors

Predicted Tide Correctors

Electronic Control Parameters

Projection Parameters

applied to stds 1-11-81
CAS.

US COMM-DC 37009-P66

DESCRIPTIVE REPORT

TO ACCOMPANY
F.E. 224 W.D.
WIRE DRAG FIELD NO. RH-10-1-75

PROJECT OPR-515-RU/HE-75

KEY WEST, FLORIDA

1975

~~CDR R.A. GANSE~~ Stet

A. AUTHORITY

This project was authorized under project instructions OPR-515-RU/HE-75, East and Gulf Coast investigations, dated December 24, 1974

B. CHARACTER AND LIMITS OF THE WORK

The purpose of this project was to investigate four items off Key West, Florida. This area is covered by C&GS Charts 576, 854, and 584. The boatsheet layout is from latitude 24°27'00" to 24°34'15" and longitude 81°47'45" to 81°53'00". The scale used on this survey was 1:10,000.

C. CONTROL AND SHORELINE

Raydist DR-S range-range control was used, operating on a frequency of 3300.4 KHz, giving a lane width of 45.39904 meters. Two Raydist shore stations, BIG PINE (200) and H-AMC-1 (100) were utilized for control. BIG PINE was (located at Latitude 24°41'27.116" and Longitude 81°22'57.967") served as the Green station (north east station). H-AMC-1 located at Latitude 24°34'33.279" and Longitude 81°47'43.670" served as the Red station (south west station). Both stations were recoverable. At completion of this boatsheet H-AMC-1 was dismantled and moved to JAW to resume work on boatsheet 20-2-75. See Attachment #1 on shore stations. See Attachment #1B on visual control signals.

D. DATE OF SURVEY

Work on boatsheet (F.E. 224 W.D.) 10-1-75 commenced on May 1, 1975 and ended on May 6, 1975. This work completed work on items 16, 17, 18, and 19.

E. TIDE REDUCERS

Preliminary reduction of each days data was done using predicted tides. The smooth tides have been requested from Rockville for AMC. See attachment VI on tides. (Smooth Tide Note is included with this Report)

F. JUNCTIONS

There were no junctions with this boatsheet.

G. SPLITS

There were no splits on this boatsheet.

H. ITEM 16

1. GROUNDINGS AND HANGS

a. CORAL HEAD. A drag was run on D Day, Strip three towards the northwest. The purpose was to lower the effective depth of the area. The drag hung on the coral bottom at an effective depth of 14.0 ~~13.5~~ feet. Snorkelers identified the hang as a coral hang with the wire on the bottom. This hang was not on the position of item 16. The hang occurred at an effective depth appropriate to the charted depth of the bottom.

2. GENERAL NOTES

A. Three drags were done over item #16. Due to the shallow depths on the NW side of the item the second two drags (D2, D3) employed a launch in place of the end vessel. The technique for navigation and plotting of the launch's position was as follows: the HECK acted as the guide vessel and launch 25 (RUDE's launch) was the end vessel. The RUDE was anchored on the end vessels course line. The RUDE directed the launch's course by radio. In addition a range consisting of an anchored intermediate buoy and an obsolete navigation aid platform assisted (when visible) the launch crew in maintaining their towing course. The RUDE took bearings to the end vessel and the foxtrot buoy at each fix. The guide vessel (HECK) took bearings to the launch and kept abeam of the launch. All of the RUDE's bearings were corrected for each fix by shooting bearings to a known position. These are the only drags where values recorded in the record volume were true (corrected) bearings.

B. A visual aerial search was completed on item 16. The search failed to spot any wreckage around item 16. See Attachment VII for a complete report.

3. SUMMARY

A. The following item was investigated on this boatsheet and our results are as follows:

A submerged dangerous wreck on Chart 576 was reported at Latitude 24°32'04"N and Longitude 81°50'42"W. The drags pertaining to this item were all the D Day drags. The plotted position of the item was cleared to ~~7.0~~ 7.5 feet with surrounding least depth cleared to

7.5
~~7.0~~ feet and maximum depth cleared to 19.0 ~~20.0~~ feet. No wreck was located. This item is considered complete.

B. In evaluating the adequacy of this survey for the purpose intended the following facts should be kept in mind.

1. The item originated from a report (See Appendix) by an aerial observer who reported the wreck as a "possible hazard to small boaters". Unfortunately the observer no longer lives in the area.

2. If the wreck were wooden it would likely deteriorate in five years in the warm Florida waters.

3. An aerial search made at the time of this survey failed to detect any wreckage.

4. Establishing at deeper effective depths over the reported position would be a very time consuming process. Coral hangs would happen in an area where the ships can't operate thereby involving disassembling the drag and pulling it section by section out to the ships.

5. Wire drag methods covered all areas where the bottom was not clearly visible to aerial investigation to standard bottom clearances.

4. RECOMMENDATION

A. Dangerous wreck reported at ~~25°17'N,~~ 24°32'04" and ~~80°10'W~~ 81°50'42" on C&GS Chart 576, 854, and 584 should have the wreck symbol removed from the chart. Concur

I. ITEM 17

1. GROUNDINGS AND HANGS

a. There were no groundings or hangs around item #17.

2. SUMMARY

a. Item #17 was investigated on this boatsheet. Results are as follows:

A 26' sounding appears on Charts 584, 854, and 576 in 34 feet of water. The word wreckage accompanies this sounding. The position of the item is Latitude 24°30'46"N and Longitude 81°50'47"W. The drags pertaining to this item were A, and A 2 drags. The plotted position of the item was cleared to ~~31.5~~ 30.5 feet with surrounding least depth cleared to 30.5 feet and maximum depth cleared to ~~32.5~~ 32.0 feet.

3. RECOMMENDATIONS

a. It is recommended that the wreckage sounding shown on C&GS Charts ~~584~~, 576, ~~854~~ at position Latitude 24°30'46"N and Longitude 81°50'47"W be removed. Concur

Chart 11447 (576) is largest scale.

J. ITEM 18

1. GROUNDINGS AND HANGS

a. Pipe. A drag was run on B Day, Strip II toward the SW. Purpose was to hang item #19. A hang occurred at item #19, but there was another hang at the position of item #18. The depth of the hang was 31.0 feet. Divers investigated the hang on item #18 and reported hang was on metal pipe, or possibly part of an old anchor. See general notes for this item for notes on possible lane loss.

b. Pipe. A drag was run on C Day, Strip III towards the NE. The purpose of the drag was to hang item #18. The item was hung at 32.0 ~~32.5~~ feet. Divers investigated and reported hang was on same item as that hung on B Day, Strip II.

2. GENERAL NOTES

a. A mid-day calibration made on B Day revealed a lane jump on the red arc for both vessels (HECK lost 3 lanes, RUDE gained 4). After reviewing the strip chart it appears that the jumps occurred after the second drag of the day. They were probably caused by a salvage vessel with similar electronic gear which passed close by. The appearance of the record at that time was what prompted the calibration check. Unfortunately the red station apparently was knocked off the air for a couple of minutes and both the RUDE & HECK were maneuvering at the time. Thus it is not possible to tie the morning and noon calibrations together. The red positions for both vessels must be considered subject to some ambiguity. Note comparision of the HECK's observed bearings to the RUDE. HECK's gyro (considered reliable) with the plotted position of the vessels supports the conclusion that the jumps occurred after the drags. The second drag still contains useful information and should be smooth plotted. This drag hung from the north the same obstruction (divers positively identified as the same) hung from the east on C Day.

b. The apparent discrepancy of having cleared item #18 at ~~31.5~~ 30.5 feet on A Day and hanging it at 31.0 feet on B Day is understood upon reviewing the tester records. The B Day drag was run obliquely to the current with a resultant sag on the down stream side and lift on the up stream one. However the rules for the application of lift specify that maximum lift in any one section of a group of section set at the same depth apply to all those sections. ~~Thus the drag depth for the 1 to 2 buoy section was probably greater than 34 feet on the B Day drag but was shown as 32 feet.~~ Note: With smooth tides & revised lift there is no discrepancy.

3. SUMMARY

a. Item #18 was investigated on this boatsheet. Results are as follows:

Item #18 was a 29 foot sounding with the word obstruction on it found on C&GS Charts 584, 854, 576 at position Latitude 24°30'40"N and Longitude 81°50'42"W. Drags pertaining to this item are drags A1, A2, B2, and C3. An obstruction at the position of item #18 was hung by two drags. The obstruction was investigated by divers and reported to be a length of 5" round metal bar protruding 3 to 4 feet above the sea floor or portion of an old anchor. Item #18 was cleared to ~~31.5~~ 30.5 feet on drag A2. Surrounding area was least cleared to 31.5 feet and maximum depth cleared was 32.5 feet.

4. RECOMMENDATIONS

A. It is our conclusion that the obstruction charted at position Latitude 24°30'40"N and Longitude 81°50'42"W on C&GS Charts 576, 584, and 854 ~~is adequately charted~~. should be charted in accordance with present information

K. ITEM 19

1. GROUNDINGS AND HANGS

a. Coral Head. A drag was run on A Day, Strip II toward the east. The purpose was to sweep items 17 and 18 then hang on item #19. Divers investigated and reported the hang to be on a large coral head. The hang occurred at ~~31.5~~ 30.6 feet effective depth.

b. Coral Head. A drag was run on B Day, Strip I in a NW direction. The purpose was to hang item #19 in a different direction. The item was hung at ~~32.0'~~ 32.5 effective depth. Divers reported the hang was a large coral head. See General Notes, Part A. for comments about possible lane loss on this drag.

c. Coral Head. A drag was run on B Day, Strip II in a SW direction. The purpose was to hang item #19 in a different direction. A double hang occurred, one on item #18 and one on item #19. The hang occurred at an effective depth of 31.0 feet. See General Notes, Part A. for comment about possible lane loss on this drag.

d. Coral Hang. A drag was run on B Day, Strip III towards the NW. The purpose was to clear item #19. The drag hung item #19 at an effective depth of ~~16.0~~ 14.5 feet.

e. Coral Hang. A drag was run C Day, Strip I towards the SE. Purpose was to hang item #19, basically repeating a drag on B Day to be safe. The item was hung at an effective depth of ~~31.5~~ 30.5 feet.

f. Coral Hang. A drag was run C Day, Strip II towards the SW. Purpose was to sweep area above item #19 then hang the item. This drag was basically repeating a drag on B Day. The item was hung at an effective depth of 31.5 feet.

2. GENERAL NOTES

a. See general notes Section A. for item 18 for information concerning drags B1 and B2.

3. SUMMARY

a. Item #19 was investigated on this boatsheet. The results were as follows. Item #19 was a reported coral head position Latitude 24°30'32"N and Longitude 81°50'26"W charted on C&GS Charts 576, 584, and 854. Drags pertaining to this item are A2, B1, B2, B3, C1, C2, and B4. A coral head at item #19 was hung on six drags. The coral head was investigated by divers. Item #19 was cleared to an effective depth of ~~14.0~~ 13.0 feet by B4 drag. Surrounding area was least cleared to ~~14.0~~ 13.0 feet and maximum depth cleared was ~~31.5~~ 32.5 feet.

4. RECOMMENDATIONS

a. It is our conclusion that the coral head charted at position Latitude 24°30'32"N and Longitude 81°50'26"W on C&GS Charts 576, 584, and 854 ~~is adequately charted.~~ should be charted in accordance with present information.

L. CURRENTS

Due to the locality of these items and the shoal area on the charts our drags were limited as to their direction. With this in mind a current survey was conducted prior to the drags to give us an indication of the current. With the current being no great factor the rest of the drags were run governed by where the shoals were and the most convenient direction to run the drag.

M. DISCREPANCIES AND COMPARISONS WITH RECENT CHARTS

In general the charts gave a good indication of the general depths, however, they do not depict all the numerous coral heads which were located in the shoal areas around Item 16.

N. PERSONNEL AND EQUIPMENT

During this survey the RUDE & HECK acted as GUIDE and END vessel respectively, except for drags D2 and D3 where a launch was used as end vessel (see notes on item #16). Both vessels were equipped with Raytheon DE-723 Fathometers. Both launches were utilized as drag tenders. Bearings to end buoys and opposite vessels were made on the Sperry gyro repeaters. Standard wire drag equipment was used. The officers aboard were: CDR Ganse, LCDR Bush, ENS Albertson, ENS Losleben, and ENS Renninger.

O. MISCELLANEOUS

1. Throughout this survey RUDE's gyro was subject to a variable error (8 plus degrees to minus 3 degrees). To determine it's error three methods (different ones for different drags) should be utilized.

Note: Comparisons made during verification of reciprocal bearings indicate the error to be variable from minus 11 to plus 5 degrees.

a. DRAGS D2 and D3

RUDE's gyro bearings were constantly corrected and recorded corrected during the two drags where launch 25 acted as the end vessel. The bearings were corrected for error by making observations to a distant object and comparing that observation with a bearing scaled between the known location of the object and the RUDE.

b. DRAGS B1 and B2

RUDE's bearings were recorded as observed so a correction will be needed. It is recommended that the RUDE's bearings be corrected by adjusting the RUDE's bearing to the HECK making it compatible with the reciprocal of the HECK's bearing to the RUDE. This method is preferable (to the one outlined below) for these drags because of a possible ambignity in the vessels position. *This recommendation was used and was compatible with computed bearings*

c. All Remaining Drags

RUDE's bearings were recorded as observed. To determine this error it is recommended that the RUDE bearing be corrected by comparing the computed bearing between the RUDE & HECK positions with the observed bearings. *Erroneous bearings were corrected in this manner.*

2. All bearings observed in the range from 172 degrees relative (ships head considered zero) to 185 degrees relative are quite approximate. No repeater has an unobstructed view of this area. Bearings are generally estimated by climbing up high enough to sight over the obstruction, picking some recognizable point on the obstruction lying along the path from the repeater to the observed object then dropping down to the repeater and observing the bearing to the recognizable point.

3. Sheet 10-1-75. The sawtooth recorder position mark arms on both the RUDE & HECK (4mm HECK, 3mm RUDE) were found to be too long after the survey was completed. To correct for this all position ticks should be shifted to the right (record viewed with position trace at bottom).

4. Testing procedures were conducted as they have been in the past. This basically, was having the testing personnel in the launch read the tester rod as if the ground wire was always set the same as the tester rod. All corrections were done by the personnel on the guide vessel and recorded in the smooth tester volume.

LIST OF ATTACHMENTS

I. A. RAYDIST CONTROL STATIONS
B. CIRCLE CALIBRATION DATA

II. LIST OF GROUNDINGS AND HANGS

III. DAILY RAYDIST CORRECTORS

IV. STATISTICS

V. PARAMETERS
A. BOATSHEET REQUEST
B. ELECTRONIC CONTROL SHEET

VI. TIDES
A. PREDICTED TIDES
— Approved Tide Note

VII. AERIAL SEARCH REPORT

Removed from the Descriptive Report and filed with the field records.

Attachment 1

A. Raydist Control Stations

H-AMC-1: 24° 34' 33.279" ✓ (Signal # 100)
1975 81° 47' 43.670" ✓

Big Pine: 24° 41' 27.116" ✓ (Signal # 200)
1935 81° 22' 57.967" ✓

B. Circle Calibration Data

East Triangle Light: ~~Approximate~~ 24° 30' ~~33~~ 32.719"
1934 81° 48' ~~13~~ 12.915"

H-AMC-1: 163.88 (Red arc)
Big Pine: 1038.10 (Green arc)

Tangent to RED(H-AMC-1) arc: 276 and 096 degrees
Tangent to GREEN(Big Pine) arc: 335 and 155 degrees

ATTACHMENT II

LIST OF GROUNDINGS AND HANGS

STOCK NO. 37
(4-30-57)
COMM-DC 28424

POSITION NO. DAY LETTER	BUOY NO.	LAT.	LONG.	GROUNDED EFF. DEPTH	CLEARED BY DAY STRIP NO.	CLEARED EFF. DEPTH FEET	SOUNDING	CHARTED DEPTH		REMARKS
A-2	4	24°30'34"	81°50'28"		B-4	14.0				CORAL NEAR OR ON 19
B-1	2-3	24°30'36"	81°50'27"		A-1	30.5				CORAL HEAD
B-2 (2 HANGS)	1-2	24°30'39"	81°50'44"		A-2	31.5				PIPE NEAR ITEM 1B 8
B-2	3	24°30'36"	81°50'26"		B-4	14.0				CORAL ON OR NEAR 19
B-3	3	24°30'33"	81°50'25"		B-4	14.0				CORAL ON OR NEAR 19
C-1	2-3	24°30'32"	81°50'26"		B-4	14.0				CORAL ON OR NEAR 19
C-2	3	24°30'34"	81°50'24"		B-4	14.0				CORAL ON OR NEAR 19
C-3	1	24°30'40"	81°50'46"		A-2	31.5				PIPE NEAR ITEM 18
L	2-3	24°31'44"	81°50'59"		0-2	7.0				CORAL
						Note:	See the verified strips or the smooth A&O sheets for smooth effective depths.			

ATTACHMENT IV

STATISTICS

STOCK NO. 37
(4-30-57)
COMM-DC 28424

DATE	DAY LETTER	STRIP	VOL. #	POSITIONS	L.N.M.	S.N.M.	RED CORR.	GREEN CORR.	LENGTH OF DRAG	SMOOTH PLOT	REMARKS
1 MAY 75	A	1	1	9	.9	.63			4800		CLEARING STRIP - *Items 17 & 18*
1 MAY 75	A	2	1	14	.65	.39			4800		CLEARING STRIP - *Items 17 & 18 - Hang on 19*
2 MAY 75	B	1	1	8	.55	.220			3200		HANG ITEM 19
2 MAY 75	B	2	1	8	.5	.25			4800		DOUBLE HANG ONE ON 19 - *other on 18*
2 . 75	B	3	1	4	.2	.06			3200		CLEARING STRIP BUT HUNG 19
2 MAY 75	B	4	1	7	.55	.220			3200		CLEARING STRIP - *Item 19*
5 MAY 75	C	1	1	6	.4	.16			3200		HANG ON 19
5 MAY 75	C	2	1	7	.58	.232			3200		HANG ON 19
5 MAY 75	C	3	1	6	.45	.180			3200		HANG ~~NEAR~~ ITEM 18
6 MAY 75	D	1	1	16	1.3	.455			3200		CLEARING STRIP - *vicinity of Item 16*
6 MAY 75	D	2	1A	14	1.34	.670			4000		HECK AS GUIDE VESSEL WITH LAUNCH
6 MAY 75	D	3	1A	4	.4	.192			3200		HECK AS GUIDE VESSEL WITH LAUNCH

clearing strip - Item 16
Hang on coral - Not Item 16

Approval Sheet

All records of this survey prior to smooth plotting are hereby approved. The field work has personally been supervised by the undersigned. The boatsheet and records were inspected daily. The survey is considered complete and adequate for charting.

See the Review

LTJG G. Michael Albertson
ops. officer

Submitted by: for T.L.Renninger
Ens. NOAA
NOAA ships Rude & Heck

R.A. Ganse

Approved by: R.A.Ganse
Commanding Officer
NOAA ships Rude & Heck

9 May 1975

Commanding Officer
NOAA Ships RUDE & HECK

LCDR Yeager A. Bush
Executive Officer
NOAA Ships RUDE & HECK

Aerial Search of Items in Key West area.

A visual search for items number 16, 17, 18, 19, 20, 21, and 21A were made by plane on 7 May 1975 between 1400 and 1640. LCDR Bush and ENS Renninger were the two officers to make this search. A Cessna 172 fixed wing aircraft was used. Wind conditions were 5-10 knots from the S.E. Sea conditions were 2 to 3 feet seas with no swell. Searches of the area were made from 200-500 ft. and at an average speed of 85 MPH. Photographs were taken to document the conditions of the water and visibility. *Note: No photos were found with the survey records.*

ITEM 16

A buoy was planted on the charted position of item 16 by the RUDE before the flight. The aircraft circled the area (a 1/2 mile radius around the buoy) 10 minutes at 80 MPH. In any depth up to 15 ft. visibility was excellent. There was no wreckage spotted in these areas. In depths greater than 15 ft. visibility was fair and no wreckage was spotted, but we were less certain of the accuracy of the check. We were certain there was no wreckage protruding above the 15 ft. depth and inside the 1/2 mile radius circle.

ITEMS 17, 18, and 19

Items 17, 18, and 19 were reported in about 30 ft. of water. The visibility was too poor in this area to make a search.

ITEM 20

The water around item 20 was not clear enough to reach a conclusion about the search. The item was charted in about 25 ft. of water.

ITEM 21

The search area was located by D.R. positioning from East Trutle Shoal Light, 3 miles from the charted position of item 21. The edge of the reef line was an aide for north-south positioning. Water depth varied between 20-40 ft. and water visibility was good. The search was covered 1 to 1.5 miles radius circle from the charted position. The area was

searched for 30 minutes at 500 ft. altitude. No wreckage was spotted. We are certain that no major wreckage is in the area. Debris smaller than 5' x 5' area would be undetected by the aerial search.

Large fish closer to the surface were easy to spot. It is our conclusion that Item 21 has either broken up or is not in the reported area.

ITEM 21A

Item 21A was reported in 100 ft. of water, too deep to make a visual search.

9/8/75

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Key West

Period: April 27 - May 10, 1975

HYDROGRAPHIC SHEET: RU/HE-10-1-75 *F.E. 224 W.D.*

OPR: 515

Locality: Off Key West

Plane of reference (mean ~~lower~~ low water): 4.52 ft.

Height of Mean High Water above Plane of Reference: 1.3 ft.

Remarks: Recommended zoning:

(1) Items #16-#19

Time Correction

HW	LW
-55 min.	-35 min.

(2) Item #20 *(no wire drag search was made for this item)*

Time Correction

HW	LW
-70 min.	-55 min.

James R Hubbard
for Chief, Tides Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

F.E. 224 W.D.

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	2	BOAT SHEETS & PRELIMINARY OVERLAYS 1 envelope	38
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POST ARC, ~~EXCESS~~	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1	1	1			4
CAHIERS						
VOLUMES	4					
BOXES						

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)* Note: all accompanying stored in one box

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS PRE-VERIFICATION	Review VERIFICATION	TOTALS
POSITIONS ON SHEET			212
POSITIONS CHECKED	0	52	52
POSITIONS REVISED	0	6	6
~~SOUNDINGS REVISED~~	-	-	-
~~SOUNDINGS ERRONEOUSLY SPACED~~	-	-	-
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED	0	0	0
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION) Survey Automation	52	0	52
VERIFICATION OF CONTROL	0	13	13
VERIFICATION OF POSITIONS	0	15	15
VERIFICATION OF ~~SOUNDINGS~~ Individual Strips	0	75	75
COMPILATION OF ~~SMOOTH SHEET~~ ok A&D Sheets and Position&Control Overlays	0	85	85
APPLICATION OF TOPOGRAPHY	0	0	0
APPLICATION OF PHOTOBATHYMETRY	0	0	0
JUNCTIONS	0	0	0
COMPARISON WITH PRIOR SURVEYS & CHARTS	0	46	46
~~VERIFIER'S REPORT~~ Review Report	0	17	17
OTHER	0	81	81
TOTALS	52	332	384

Pre-Verification by M.W. Johnson	*Beginning Date* 09/01/75	*Ending Date* 09/15/75
Verification ~~by~~ Review by M.B. Hickson	*Beginning Date* 11/24/75	*Ending Date* 05/21/80
Verification Check by B.J. Stephenson	*Time (Hours)* 4	*Date* 05/22/80
Marine Center Inspection by Hydrographic Inspection Team (AMC)	*Time (Hours)* 4	*Date* 06/11/80
Quality Control Inspection by G. Myers	*Time (Hours)* 70	*Date* 10/12/80
Requirements Evaluation by [illegible]	*Time (Hours)* 6	*Date* 12/16/80

ATLANTIC MARINE CENTER

PROCESSING DIVISION

WIRE DRAG SURVEY ~~REVIEW~~ Verification Report

REGISTRY NO.: F.E. 224 W.D.

FIELD NO.: R/H-10-1-75

Florida, Straits of Florida, Key West Harbor and Approaches

SURVEYED: May 1 through May 6, 1975

SCALE: 1:10,000

PROJECT NO.: OPR-515

SOUNDINGS: Wire Drag

CONTROL: Raydist (Range Range)

Chief of Party . . . . . skt. ~~CDR R. A. Ganse~~

Surveyed by . . . . . LCDR Bush*

. . . . . ENS Albertson

. . . . . ENS Losleben

. . . . . ENS Renninger

Automated Plot by (Rough Strip) . . . . . Calcomp 618 Plotter (AMC)

Drag Strips Subdivided by . . . . . M. B. Hickson

Verified by . . . . . M. B. Hickson

Reviewed by . . . . . M. B. Hickson M. B. Hickson

Date . . . . . May 21, 1980

Inspected by . . . . . H. I. T. (AMC)

1. Purpose of the Survey

The purpose of the field examination was to investigate and prove or disprove the existance of four items in the vicinity of Key West, Florida. Their reported positions and identities are listed in the Project Instructions and the Descriptive Report.

The results of the investigations are discussed in this report and portrayed on the smooth A & D sheets included in the Descriptive Report.

2. Control and Shoreline

a. The source of control was not adequately described in Section C. and Attachment I of the Descriptive Report. Proper triangulation station names and establishment dates were added during verification and review. The geographic position of the calibration station (Attachment I) required correction.

b. Shoreline was not drawn on the smooth sheet as the Shoreline Manuscript TP-00485, scale ≐ 1:10,000, was not available during processing.

3. Junctions

There were no junctions on this field examination.

4. Comparison with Prior Surveys

Comparisons between the present field examination and prior surveys (hydrographic and wire drag) common to the items reveals the following:

a. Prior Hydrographic Survey H-8844 (1965), unverified - Common to the entire field examination-One conflict exists between soundings and effective depths of the field examination. The conflict is the 25-foot sounding addressed in section 5.a.5)c) of this report. Revised limits of survey during Quality Control which excludes coverage of 25-ft depth.

b. Prior Hydrographic Survey H-5934 a (1934-37) - Common to part of the Item 16 area of investigation - No conflicts exist between soundings and effective depths of the field examination in the common area. Concur

c. Prior Hydrographic Survey H-4138 (1919) - Common to part of the Item 16 area of investigation - No conflicts exist between soundings and effective depths of the field examination in the common area. Concur

d. Prior Hydrographic Survey H-2682 (1904) - Common to most of the Items 17, 18, and 19 areas of investigation - Two conflicts exist between soundings and effective depths of the field examination in the common area. One conflict is the 22-foot sounding addressed in section 5.a.5)b) of this report. The other conflict is an undeveloped feature delineated by a 30 foot curve in the vicinity of latitude 24°30.7', longitude 81°50.40' extending from a 18 ½ - foot shoal depth conflicting with the present cleared depths of 32 feet in the area. The present survey obtained a 14-foot hang depth subsequently cleared by 13 feet on this feature which is identified as a coral head. The present survey results should be charted. concur

e. Prior Hydrographic Survey H-2671 (1904) - Common to part of Items 16, 17, 18, and 19 areas of investigation - No conflicts exist between soundings and effective depths of the field examination in the common area. concur

f. Prior Wire Drag Survey H-2933 W.D. (1908-15) - Common to part of the Item 16 area of investigation - No conflicts exist between present and prior effective depths within the common area. Effective depths on the present field examination, ~~range from~~ are as much as 8 feet shoaler, ~~to 5 feet deeper than effective depths on the prior survey~~. Overall the prior survey displays generally greater effective depths in the common area.

g. Prior Wire Drag Survey H-2875 W.D. (1908-14) - Common to part of the Items 16, 17, 18, and 19 areas of investigation - This prior survey is the source of Items 17, 18, and 19. Two conflicts exist between present and prior wire drag data in the common area. The conflicts are the 31 foot sounding addressed in section 5.a.5)a) of this report and Item 17 which is disproved by the present field examination. Concur. Effective depths on the present field examination range from 11 feet shoaler to 13 feet deeper than effective depths on the prior survey. Overall the prior survey displays generally greater effective depth in the northern common area (Item 16) and shoaler effective depths in the southern common areas (Items 17, 18, and 19).

5. Comparison with chart C & GS 576 (11447), 17th Edition, May 4, 1974

Comparisons between chart C & GS 576 and the field examination indicates that the following revisions to the chart are necessary to reflect the final results of the investigations:

a. Hydrography

(copied

1) Item 16 - The submerged dangerous wreck, PA, reported 1970, originating with chart letter 507 of 1970 (see the reporting form included with the

Descriptive Report), identity unknown, was not located by this examination. Wire drag strips covered a rectangular area of 1 3/4 miles by 3/4 mile in search for the wreck with effective depths ranging from 7 feet to 19 feet. The charted position of the wreck (in charted depths of 17 to 18 feet) was cleared by 7 feet. During the investigation of this item a hang on a coral head occurred at an effective depth of 14 feet (in charted depths of 14 to 17 feet) and was subsequently cleared by 8 feet. With the exception of the coral head located by this investigation there are no conflicts between charted hydrography and the present field examination in the common area of the item 16 investigation. In addition to the wire drag investigation of this item, an aerial search was conducted for the wreck with negative results, see the Descriptive Report. Based on the combined efforts of wire drag and aerial search, it is recommended that item 16 be deleted from the chart. It is aslo recommended that the coral head located during this item investigation be charted in accordance with present information. Concur

2) Item 17 - The 26 foot sounding, wreckage, originating with the prior wire drag survey H-2875 W.D. (1908-14), identity unknown, was not located by this examination. Wire drag strips covered slightly less than a 1/2 mile radius circle around the reported position with effective depths ranging from 29 feet to 32 feet. The charted position of the wreckage sounding (in charted depths of 34 feet) was cleared by 30 feet. It is recommended that this item be deleted from the chart as clearing depths adequately disprove any significant wreckage in the vicinity. concur

logged

3) Item 18 - The 29 - foot sounding, obstruction, originating with prior wire drag survey H-2875 W.D. (1908-14), identity unknown, was located by this examination. This obstruction was identified by divers as a 5-inch diameter pipe extending 4 feet above the bottom. This item (in charted depths of 34 feet) was

logged

hung at 31 feet and cleared by 30 feet. It is recommended that this item be charted in accordance with present information. concur

4) Item 19 - The 14 foot sounding, coral head, originating with prior wire drag survey H-2875 W.D. (1908-14), was located by this examination. This item was identified by divers as a coral head. This item (in charted depths of 35 feet) was hung at 14 feet and cleared by 13 feet. It is recommended that this item be charted in accordance with present information. charted See Quality Control Report, item 1

5). In comparisons of charted hydrography with the common area covered by the combined investigations of items 17, 18, and 19; five discrepancies between charted data and present wire drag clearances were noted as follows:

a) The 31-foot sounding originating with H-2875 WD ((1908-14), charted at latitude 24°30'37.25", longitude 81°50'43.9", was cleared by an effective depth of 32 feet. It is recommended that this sounding be deleted from the chart. concur

b) The 22 - foot sounding originating with ~~H-2682 (1904)~~ H-281 (1850-51), charted at latitude 24°30'22.1", longitude 81°50'46.2" was cleared by an effective depth of 30 feet by the present survey and was cleared by 30 feet on H-2875 WD (1914). It is recommended that this sounding be deleted from the chart. H-8844 (1965), univerified survey, has depths of 34 to 35 feet in this area. The 22-foot sounding is probably in error by 10 or 12 feet. Disregard, See Quality control Report, item 2

c) The 25 - foot sounding, originating with H-8844 (1965), unverified, charted at latitude 24°30'14.75", longitude 81°50'37.5" was cleared by an effective depth of 30 feet. It is recommended that this sounding be deleted from the chart. Disregard, See Quality control Report item 2

d) The 23-foot sounding, ~~source unknown,~~ from H-281(1850-51) charted at latitude 24°30'34.7", longitude 81°50'19.0" was cleared by an effective depth of 32 feet by the present survey and was cleared by 29 feet on H-2975 WD (1914). It is recommended that this sounding be deleted from the chart. concur

Sounding probably in error by 10 ft.

e) The mooring buoy "D-17" charted at latitude 24°30'50.2", longitude 81°50'11.0" was missing at the time of the survey. The mooring buoy was probably picked up for maintenance as the present survey clearing of 31 feet adequately proves that the buoy was not sunk. concur

6) Except as previously noted, there are no conflicts between the present survey effective depths and the charted depths.

b. Wire Drag

Wire drag clearance areas covering the Southwest Channel to Key West Harbor (origin unknown) are charted and are common to some areas covered by the present field examination. No conflicts exist between the charted wire drag data and the present field examination. A comparison was not made with H-8844 WD (1965) which is unverified. This comparison is deferred to Quality Control Branch in Rockville, Maryland. See Verifier's Report, item 5.a., 5.e and Quality Control Report, items 1 & 2.

c. Aids to Navigation

There are no aids to navigation common to the surveyed area. The Item 19 coral head represents a significant hazard to navigation, therefore, it is recommended that an aid to navigation be established on this hazardous item.

6. Condition of Survey

The condition of the field examination is satisfactory except as follows:

a. Field Work and Records

1) Calibration and control signals are not listed in the volume indexes.

2) Control discrepancies such as lane ambiguities are substandard and final resolution should be made by the field. The questioned data was plotted using normal correctors and assumed as having no lane jumps. This determination was re-enforced by the hydrogrpaher's comments and the agreement of hang positions.

3) Lift testing was generally substandard. There was an excessive amount of Testor on Bottom (TOB) tests. Seven of the twelve strips run on this examination had sections not tested.

b. Descriptive Report

1) Section C. and Attachment I. did not have the triangulation station establishment ~~establish ment~~ dates. The calibration station (EAST TRIANGLE LIGHT, 1934) did not have the correct geographic position listed.

2) Section M. does not list the chart used for comparison. The comparisons made are inadequate. Section M. also notes there are numerous coral heads not depicted on the chart but were common to the surveyed area. The field made no attempt to locate these uncharted coral heads.

3) This field examination was not compared with any other surveys (neither hydrographic nor wire drag) by the field.

4) The letter "Aerial Search of Items in Key West Area" attached to the Descriptive Report mentions aerial photographs taken to document water conditions and visibility. These photographs were not included with the survey records.

5) Necessary corrections made by the reviewer to the Descriptive Report are denoted in red ink.

c. Field Plotting

Field plotting consisted of individual strips plotted on individual mylar sheets and field A & D sheets (not color coded) for Item 16 and combined Items 17, 18, and 19. Although this is not in accordance with the Wire Drag Manual, it is considered adequate.

7. Compliance with Project Instructions

This wire drag field examination was made in compliance with Project Instructions OPR-515-RU/HE-75, Wire Drag, East and Gulf Coast Investigations, dated 24 December 1974, except as follows:

a. The coral head hung during the Item 16 investigation precluded bottom clearing in only one direction as was accomplished during this item investigation. See Section 2.4 of the Project Instructions.

b. Investigations on all items of this field examination lacked the proper specified wire drag coverage of a 1/2 mile radius circle of search around the ~~reported~~ charted positions. See section 2.4 of the Project Instructions.

c. The coral head hung during the Item 16 investigation was not cleared by two (2) feet or less as specified in section 2.5 of the Project Instructions.

d. The coral head hung during the Item 16 investigation was not cleared in opposite directions as required when no determination is made as to being hangable from all directions. See Section 2.5 of the Project Instructions.

e. Bottom clearances for wire dragged areas of all items should have been closer to the bottom, particularly for the Item 16 investigations. See section 2.5 of the Project Instructions.

f. The field failed to record the geographic position of the station used for calibration (EAST TRIANGLE LIGHT, 1934) as required by Section 2.8 of the Project Instructions.

8. Additional Field Work

All assigned items common to the surveyed area have been satisfactorily resolved. No additional field work on the assigned items is recommended. Additional field work is recommended in the vicinity of the item 16 investigations to locate and chart the numerous coral heads mentioned in Section M. of the Descriptive Report. ~~Unit~~ Until this can be accomplished a hazard note should be charted in that area.

9. Miscellaneous

a. This field examination was processed and verified in 1975 in concurrance with methods and procedures governing wire drag processsing at that time. The review was conducted in 1980 in accordance with present standards.

b. There are no splits in the area surveyed by this field investigation.

c. The Descriptive Report adequately covers all other matters pertinent to this field examination. No further discussion is considered necessary.

INSPECTION REPORT
FE-224 WD

The completed survey has been inspected by the Hydrographic Inspection Team with regard to survey coverage, cartographic symbolization, and verification or disproval of charted data. The Verification Report has presented the facts accurately and properly, the procedures used were appropriate, and the recommendations are logical and justifiable. The survey records comply with NOS requirements except where noted in the Verification Report. The Hydrographic Inspection Team concurs with the verifier's findings, actions and recommendations.

The Hydrographic Inspection Team noted that the area was surveyed by NOS in 1965 and the results have not been qualified for the nautical charting data base. At least one item disposed of on the present survey was wire-dragged and disposed of in 1965. The lack of processed data failed to provide a suitable base for the hydrographer to wire drag on and contributed to the difficulty of processing this wire drag survey. It is recommended that additional surveys not be conducted in areas where surveys conducted by NOS remain unprocessed and unqualified.

Examined and Approved:
Hydrographic Inspection Team
Date: June 11, 1980

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Approved/Forwarded:

R H Houlder
Richard H. Houlder
RADM, NOAA
Director, Atlantic Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C352:GKM

September 12, 1980

TO: Glen R. Schaefer *for*
Chief, Hydrographic Surveys Division

FROM: George K. Myers
Chief, Quality Control Branch

SUBJECT: Quality Control Report for FE-224 (1975) WD, Florida, Southeast Atlantic Coast, Key West

A quality control inspection of FE-224 WD was accomplished to monitor the survey for adequacy with respect to data acquisition, determination of the validity of hangs, groundings, and least depths, validity of cleared depths over obstructions in the survey area, A&D sheet, Verifier's Report, decisions and actions by the verifier, and cartographic presentation of data.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report, the HIT Report, and as follows:

1. The 14-foot sounding (Presurvey Review Item 19) charted at latitude 24°30'32"N, longitude 81°50'26"W addressed in sections 4.g and 5.a.4 of the Verifier's Report originates with H-2875 WD (1908-14). This item is stated in unverified wire-drag survey H-8844 (1965) to lie 78 meters due west of its charted position. A lead line depth of 16 1/2 feet was determined by divers on survey H-8844; however, the location of the lead line depth is questionable as revealed by remarks concerning the validity of recorded sextant angles in the survey records.

The 14-foot hang located by this field examination plots about 30 meters northward of the charted 14. The quality evaluator concurs with the recommendation stated in the Verifier's Report that the 13-foot cleared depth be charted at latitude 24°30'34"N, longitude 81°50'26"W and the charted 14 be deleted.

2. The 25- and 22-foot soundings charted at latitude 24°30'14.75"N, longitude 81°50'37.5"W and latitude 24°30'22.1"N, longitude 81°50'46.2"W, respectively, are considered not to be cleared by 30 feet as stated in the Descriptive Report. Inasmuch as the ground wire is considered to have hit the bottom in the area of these soundings as noted by remarks concerning the instability of the drag buoys by the surveyor, the limits of the sweep were revised during quality control.

cc:
OA/C351

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

DEC 23 1980

OA/C351:DJ

TO: OA/CAM - Richard H. Houlder

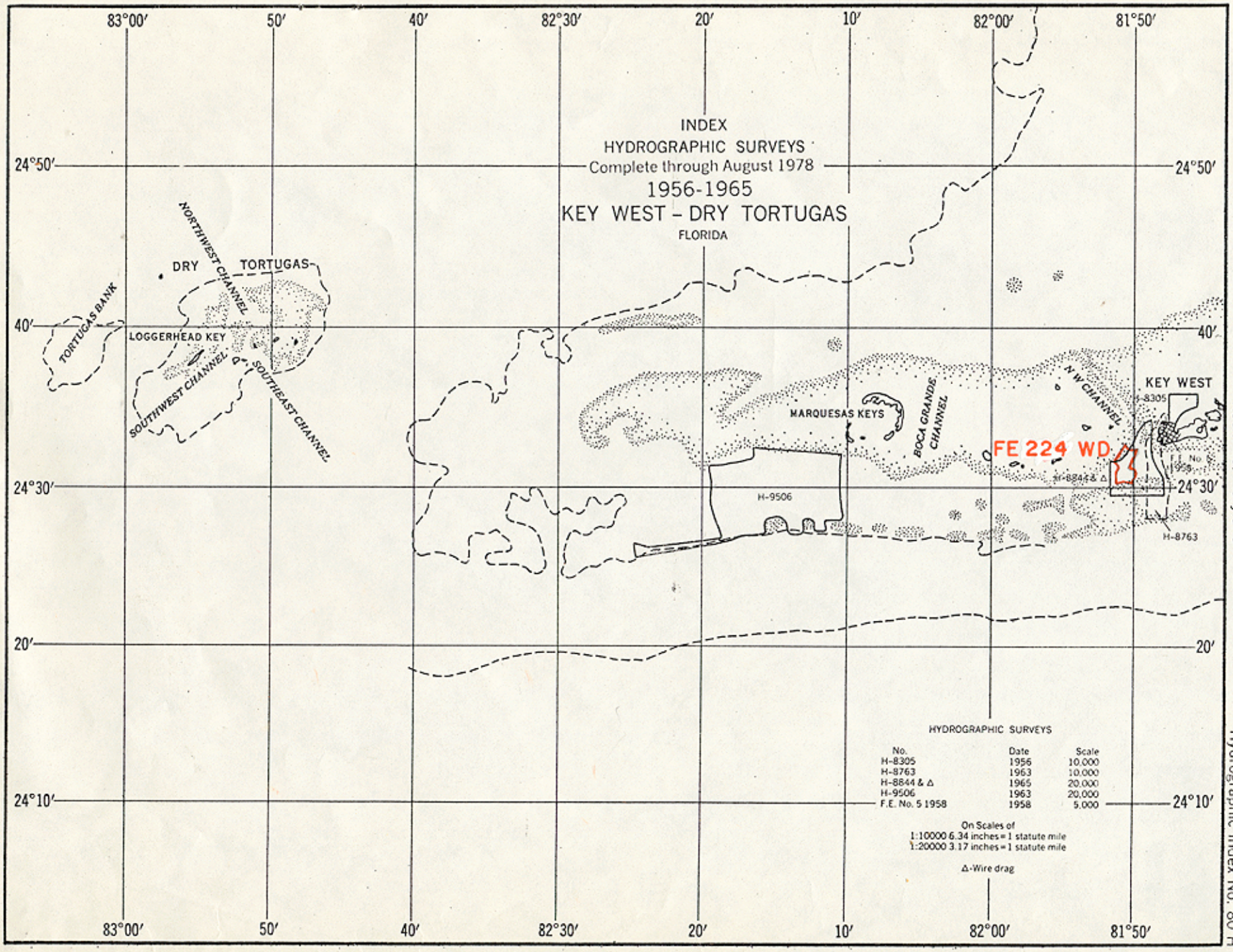
FROM: OA/C3 - Roger F. Lanier

SUBJECT: FE-224 (1975) WD, OPR-515, Florida, Southeast Atlantic Coast, Key West, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated September 12, 1980 (copy attached), and the Hydrographic Survey Inspection Team Report, dated June 11, 1980, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-515-RU/HE-75, dated December 24, 1974.

Attachment

cc:
OA/C352 w/o att.



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 80 H

81° 51′ 00″ 81° 50′ 30″ 81° 50′ 00″

24° 33′ 00″ 24° 33′ 00″

24° 32′ 30″ 24° 32′ 30″

24° 32′ 00″ 24° 32′ 00″

24° 31′ 30″ 24° 31′ 30″

140 (100)

1100 (200)

20 (100)

1100 (200)

30D

16D

15D

120 (100)

10D

160 (100)

25D

35D

5D

BG PINE, 1935

140 (100)

1100 (200)

20D

1120 (200)

1D

17D

180 (100)

1120 (200)

31D

H-AMC-1, 1975

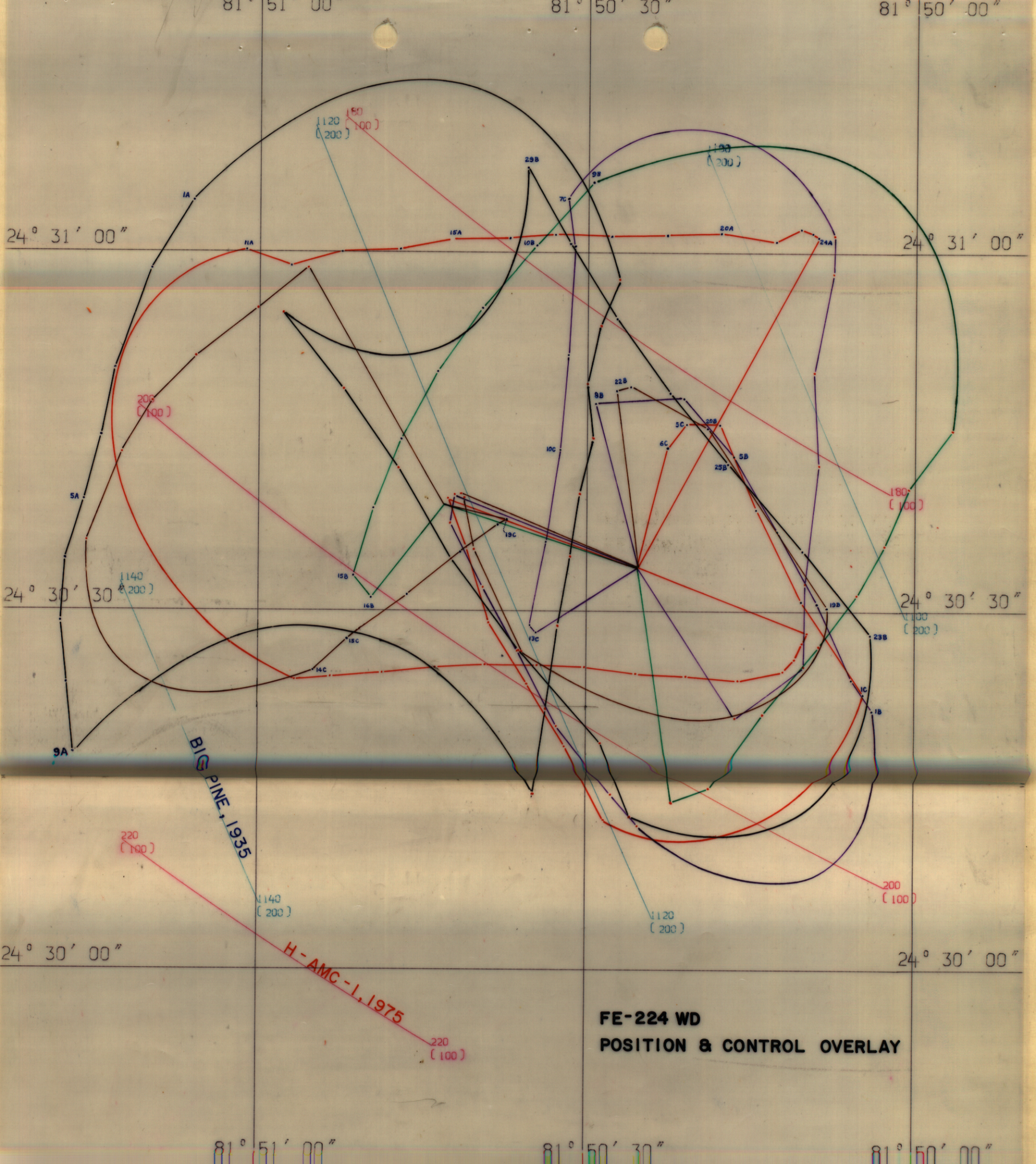
1100 (200)

160 (100)

180 (100)

FE-224 WD

POSITION & CONTROL OVERLAY


81° 51′ 00″
81° 50′ 30″
81° 50′ 00″
24° 31′ 00″
24° 30′ 30″
24° 30′ 00″
1A
11A
15A
10B
20A
24A
29B
9B
7C
22B
8B
3C
20B
6C
10C
5B
25B
5A
19C
15B
16B
13C
19B
23B
15C
14C
1C
1B
9A
120 (200)
80 (100)
140 (200)
180 (100)
200 (100)
220 (100)
BIG PINE, 1935
H-AMC-1, 1975
FE-224 WD
POSITION & CONTROL OVERLAY

24° 33' 00"

24° 32' 30"

24° 32' 00"

24° 31' 30"

81° 51' 00"

81° 50' 30"

81° 50' 00"

8'

12'

8'

11'

18'

7'

hang at 14ft.
cleared by 8 ft.
coral head

8'

8'

11'

8'

19'

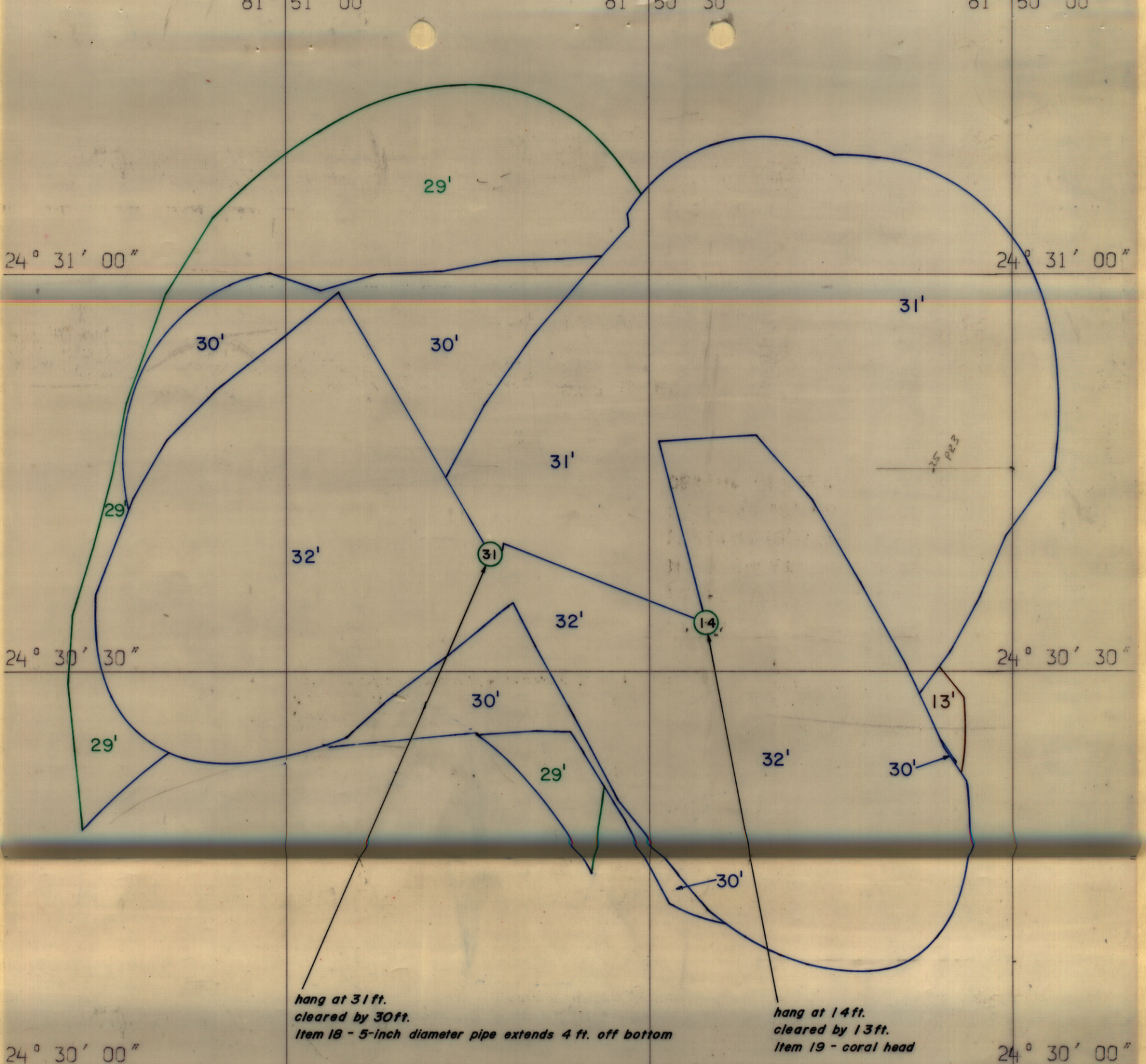
9'

14

14'

19'

FE-224 WD
A&D SHEET
ITEM 16
SCALE = 1:10,000
DEPTHS IN FEET



FE-224 WD
A & D SHEET
ITEMS 17, 18, & 19
SCALE = 1:10,000
DEPTHS IN FEET

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-224 WD

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review

CHART	DATE	CARTOGRAPHER	REMARKS
11447	7/2/81	FB Rowena	Full ~~Part Before After Verification Review~~ QC Inspection Signed Via
			Drawing No. #34
11442	3/7/81	L Lemar	Full ~~Part Before After Verification Review~~ QC Inspection Signed Via
			Drawing No. #45 through 11447
11441	4/23/81	Stephen J. Perry	Full ~~Part Before After Verification Review~~ QC. Inspection Signed Via
			Drawing No. 40 through 11447
11445	8/3/81	R. Richter	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. 22B through 11441
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63